```
RRRRRRRRRRRR    UUU          UUU NNN        NNN   000000000   FFFFFFFFFFFFFFF  FFFFFFFFFFFFFFF
RRRRRRRRRRRR    UUU          UUU NNN        NNN   000000000   FFFFFFFFFFFFFFF  FFFFFFFFFFFFFFF
RRRRRRRRRRRR    UUU          UUU NNN        NNN   000000000   FFFFFFFFFFFFFFF  FFFFFFFFFFFFFFF
RRR      RRR    UUU          UUU NNN        NNN   000      000 FFF              FFF
RRR      RRR    UUU          UUU NNN        NNN   000      000 FFF              FFF
RRR      RRR    UUU          UUU NNN        NNN   000      000 FFF              FFF
RRR      RRR    UUU          UUU NNNNNN     NNN   000      000 FFF              FFF
RRR      RRR    UUU          UUU NNNNNN     NNN   000      000 FFF              FFF
RRRRRRRRRRRR    UUU          UUU NNN NNN    NNN   000      000 FFFFFFFFFFF      FFFFFFFFFFF
RRRRRRRRRRRR    UUU          UUU NNN NNN    NNN   000      000 FFFFFFFFFFF      FFFFFFFFFFF
RRRRRRRRRRRR    UUU          UUU NNN NNN    NNN   000      000 FFFFFFFFFFF      FFFFFFFFFFF
RRR   RRR       UUU          UUU NNN    NNNNN     000      000 FFF              FFF
RRR    RRR      UUU          UUU NNN    NNNNN     000      000 FFF              FFF
RRR    RRR      UUU          UUU NNN      NNN     000      000 FFF              FFF
RRR      RRR    UUU          UUU NNN        NNN   000      000 FFF              FFF
RRR      RRR    UUU          UUU NNN        NNN   000      000 FFF              FFF
RRR      RRR    UUUUUUUUUUUUUUUU NNN        NNN   000000000   FFF              FFF
RRR      RRR    UUUUUUUUUUUUUUUU NNN        NNN   000000000   FFF              FFF
RRR      RRR    UUUUUUUUUUUUUUUU NNN        NNN   000000000   FFF              FFF
```

```
FFFFFFFFFF    000000      000000      BBBBBBBB      000000    TTTTTTTTTT
FFFFFFFFFF    000000      000000      BBBBBBBB      000000    TTTTTTTTTT
FF          00    00    00    00    BB      BB    00    00        TT
FF          00    00    00    00    BB      BB    00    00        TT
FF          00    00    00    00    BB      BB    00    00        TT
FFFFFFFF    00    00    00    00    BBBBBBBB      00    00        TT
FFFFFFFF    00    00    00    00    BBBBBBBB      00    00        TT
FF          00    00    00    00    BB      BB    00    00        TT
FF          00    00    00    00    BB      BB    00    00        TT
FF          00    00    00    00    BB      BB    00    00        TT      ....
FF          000000      000000      BBBBBBBB      000000        TT      ....
FF          000000      000000      BBBBBBBB      000000        TT      ....
                                                                        ....


LL              IIIIII      SSSSSSSS
LL              IIIIII      SSSSSSSS
LL                II      SS
LL                II      SS
LL                II      SS
LL                II        SSSSSS
LL                II        SSSSSS
LL                II              SS
LL                II              SS
LL                II              SS
LLLLLLLLLL    IIIIII      SSSSSSSS
LLLLLLLLLL    IIIIII      SSSSSSSS
```

```
   1      00C1  0  MODULE foobot ( IDENT = 'V04-000'
   2   P  0002  0                 %BLISS32[, ADDRESSING_MODE (EXTERNAL    = LONG_RELATIVE,
   3      0003  0                                             NONEXTERNAL = LONG_RELATIVE)]
   4      0004  0                  ) =
   5      0005  1  BEGIN
   6      0006  1
   7      0007  1  !**************************************************************************
   8      0008  1  !*                                                                       *
   9      0009  1  !*    COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                            *
  10      0010  1  !*    DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS.             *
  11      0011  1  !*    ALL RIGHTS RESERVED.                                               *
  12      0012  1  !*                                                                       *
  13      0013  1  !*    THIS SOFTWARE IS FURNISHED UNDER A LICENSE AND MAY BE USED AND COPIED *
  14      0014  1  !*    ONLY IN  ACCORDANCE WITH  THE  TERMS  OF  SUCH  LICENSE  AND WITH THE *
  15      0015  1  !*    INCLUSION OF THE ABOVE COPYRIGHT NOTICE. THIS SOFTWARE OR  ANY  OTHER *
  16      0016  1  !*    COPIES THEREOF MAY NOT BE PROVIDED OR OTHERWISE MADE AVAILABLE TO ANY *
  17      0017  1  !*    OTHER PERSON.  NO TITLE TO AND OWNERSHIP OF  THE  SOFTWARE IS  HEREBY *
  18      0018  1  !*    TRANSFERRED.                                                       *
  19      0019  1  !*                                                                       *
  20      0020  1  !*    THE INFORMATION IN THIS SOFTWARE IS  SUBJECT TO CHANGE WITHOUT NOTICE *
  21      0021  1  !*    AND  SHOULD  NOT  BE  CONSTRUED AS  A COMMITMENT BY DIGITAL EQUIPMENT *
  22      0022  1  !*    CORPORATION.                                                       *
  23      0023  1  !*                                                                       *
  24      0024  1  !*    DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE  OR  RELIABILITY OF ITS *
  25      0025  1  !*    SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.           *
  26      0026  1  !*                                                                       *
  27      0027  1  !*                                                                       *
  28      0028  1  !**************************************************************************
  29      0029  1  !
  30      0030  1
  31      0031  1  !++
  32      0032  1  ! FACILITY:     DSR (Digital Standard RUNOFF) / DSRPLUS
  33      0033  1  !
  34      0034  1  ! ABSTRACT:
  35      0035  1  !
  36      0036  1  !      Puts as many footnotes as possible at the bottom of the current page.
  37      0037  1  !
  38      0038  1  ! ENVIRONMENT: Transportable
  39      0039  1  !
  40      0040  1  ! AUTHOR:       R.W.Friday        CREATION DATE: November, 1981
  41      0041  1
```

```
  43      0042 1 %SBTTL 'Revision History'
  44      0043 1 ! MODIFIED BY:
  45      0044 1 !
  46      0045 1 !     004      RER00004      Ron Randall      05-Apr-1983
  47      0046 1 !     For DSRPLUS:  Added code for footnote numbering.
  48      0047 1 !
  49      0048 1 !     003      RER00003      Ron Randall      07-Mar-1983
  50      0049 1 !     Global edit of all modules. Updated module names, idents,
  51      0050 1 !     copyright dates. Changed require files to BLISS library.
  52      0051 1 !--
  53      0052 1
```

V04-000   Module Level Declarations

                                                      L 9
                                                      16-Sep-1984 00:31:07   VAX-11 Bliss-32 V4.0-742
                                                      14-Sep-1984 13:06:23   [RUNOFF.SRC]FOOBOT.BLI;1   Page   3
                                                                                                                     (3)

```
  55      0053   1 %SBTTL 'Module Level Declarations'
  56      0054   1 !
  57      0055   1 !  TABLE OF CONTENTS:
  58      0056   1 !
  59      0057   1 FORWARD ROUTINE
  60      0058   1     FOOBOT : NOVALUE;
  61      0059   1 !
  62      0060   1 !  INCLUDE FILES:
  63      0061   1 !
  64      0062   1 LIBRARY 'NXPORT:XPORT';                  ! XPORT Library
  65      0063   1 REQUIRE 'REQ:RNODEF';                    ! RUNOFF variant definitions
  66      0194   1
  67    U 0195   1 %IF DSRPLUS %THEN
  68    U 0196   1 LIBRARY 'REQ:DPLLIB';                    ! DSRPLUS BLISS Library
  69      0197   1 %ELSE
  70      0198   1 LIBRARY 'REQ:DSRLIB';                    ! DSR BLISS Library
  71      0199   1 %FI
  72      0200   1
  73      0201   1 !
  74      0202   1 !  MACROS:
  75      0203   1 !
  76      0204   1 !  This macro makes certain that when blank lines at the top or bottom
  77      0205   1 !  of a page are skipped change bars don't get output.
  78      0206   1 !
  79      0207   1 MACRO
  80    M 0208   1     NO_BAR_SKIP (N) =
  81    M 0209   1         BEGIN
  82    M 0210   1         LOCAL
  83    M 0211   1             HOLD_BARS;
  84    M 0212   1
  85    M 0213   1         HOLD_BARS = .TSF_BARS;
  86    M 0214   1         TSF_BARS  = FALSE;
  87    M 0215   1         USKIPL (N);
  88    M 0216   1         TSF_BARS  = .HOLD_BARS;
  89      0217   1         END %;
  90      0218   1 !
  91      0219   1 !  EXTERNAL REFERENCES:
  92      0220   1 !
  93      0221   1 EXTERNAL
  94      0222   1     FNCT          : FNCT_DEFINITION,          ! Footnote control table.
  95      0223   1     FNESIZ        : FN_EXT_SIZE_DEFINITION,
  96      0224   1     HCT           : HCT_DEFINITION,
  97      0225   1     PHAN          : PHAN_DEFINITION,
  98      0226   1     TSF           : TSF_DEFINITION;
  99      0227   1
 100      0228   1 EXTERNAL LITERAL
 101      0229   1     RNFFWF;
 102      0230   1
 103      0231   1 EXTERNAL ROUTINE
 104      0232   1     ERML,
 105      0233   1     FOOOUT,
 106      0234   1     TPFFIT,
 107      0235   1     TPFSKP,
 108      0236   1     USKIPL;
 109      0237   1
```

```
  111   0238  1 GLOBAL ROUTINE foobot : NOVALUE =
  112   0239  1
  113   0240  1 !++
  114   0241  1 ! FUNCTIONAL DESCRIPTION:
  115   0242  1 !
  116   0243  1 !       See ABSTRACT, above.
  117   0244  1 !
  118   0245  1 ! FORMAL PARAMETERS:      None
  119   0246  1 !
  120   0247  1 ! IMPLICIT INPUTS:        None
  121   0248  1 !
  122   0249  1 ! IMPLICIT OUTPUTS:       None
  155   0250  1 !
  124   0251  1 ! ROUTINE VALUE:
  125   0252  1 ! COMPLETION CODES:       None
  126   0253  1 !
  127   0254  1 ! SIDE EFFECTS:           None
  128   0255  1 !--
  129   0256  1
  130   0257  2     BEGIN
  131   0258  2
  132   0259  2
  133   0260  2         !
  134   0261  2         ! See if there are any footnotes to be output.
  135   0262  3         IF  (.FNCT_READY NEQ 0)
  136   0263  2         THEN
  137   0264  2
  138   0265  2             !
  139   0266  2             ! See if these footnotes should be output now.
  140   0267  2             ! Check for two cases:
  141   0268  2             ! one in which there's a footnote that's too big to fit on the page,
  142   0269  2             ! and the other in which there's no such error.
  143   0270  2             !
  144   0271  2             ! Skip over old footnotes, consider the first ready footnote.
  145   0272  2             !
  146   0273  2             IF  .FNESIZ [.FNCT_OLD] GTR
  147   0274  3                 (.PHAN_LLINES - .HCT_LAYOUTN -
  148   0275  4                 (IF       .HCT_HEADERS
  149   0276  4                  THEN                        ! 3 is title line + 2 blank lines.
  150   0277  5                        3 + (IF .HCT_SUBTITLE THEN 1 ELSE 0)
  151   0278  4                   ELSE
  152   0279  4                        0)
  153   0280  4
U 154   0281  4 %IF DSRPLUS %THEN
U 155   0282  4                 - (IF .FNCT_NUMBERING THEN 1 ELSE 0)
  156   0283  4 %FI
  157   0284  4
  158   0285  3                 )
  159   0286  2             THEN
  160   0287  2                 !
  161   0288  2                 ! The first ready footnote is so lengthy that it requires
  162   0289  2                 ! more space than allowed per page of the document,
  163   0290  2                 ! so force it out now and complain to the user.
  164   0291  2                 !
  165   0292  3                 BEGIN
  166   0293  3                 ERML (RNFFWF);
  167   0294  3                 FOOOUT (1)                      ! Dump one footnote, namely the bad one.
```

```
  168   0295   3                        END
  169   0296   2                    ELSE
  170   0297   2                        !
  171   0298   2                        ! These footnotes are not too lengthy, so see if there is
  172   0299   2                        ! space at the bottom of the page to output them now.
  173   0300   2                        !
  174   0301   2                        BEGIN
  175   0302   3                        LOCAL
  176   0303   3                            HOW_MANY_FIT;
  177   0304   3
  178   0305   3                        !
  179   0306   3                        ! Find out how many footnotes of the ready ones can fit.
  180   0307   3                        !
  181   0308   3                        HOW_MANY_FIT = TPFFIT ();
  182   0309   3
  183   0310   4                        IF  (.HOW_MANY_FIT NEQ 0)
  184   0311   3                        THEN
  185   0312   3                            !
  186   0313   3                            ! There are some footnotes that will fit.  Output them.
  187   0314   3                            !
  188   0315   4                            BEGIN
  189   0316   4                            LOCAL
  190   0317   4                                HOLD_PAGING;
  191   0318   4
  192   0319   4                            HOLD_PAGING = .PHAN_PAGING;
  193   0320   4                            PHAN_PAGING = FALSE;
  194   0321   4                            !
  195   0322   4                            ! Position to proper location on page.
  196   0323   4                            !
  197   0324   4                            NO_BAR_SKIP (TPFSKP (.HOW_MANY_FIT));
  198   0325   4                            FOOOUT (.HOW_MANY_FIT);      ! Generate the footnotes now.
  199   0326   4                            PHAN_PAGING = .HOLD_PAGING;
  200   0327   4                            END
  201   0328   4
  202   0329   2                        END;
  203   0330   2
  204   0331   1        END;                                    ! End of routine FOOBOT
```

```
                                        .TITLE  FOOBOT
                                        .IDENT  \V04-000\

                                        .EXTRN  FNCT, FNESIZ, HCT
                                        .EXTRN  PHAN, TSF, RNFFWF
                                        .EXTRN  ERML, FOOOUT, TPFFIT
                                        .EXTRN  TPFSKP, USKIPL

                                        .PSECT  $CODE$,NOWRT,2

                       01FC 00000       .ENTRY  FOOBOT, Save R2,R3,R4,R5,R6,R7,R8      ; 0238
      58 00000000G  EF  9E 00002        MOVAB   TSF, R8
      57 00000000G  EF  9E 00009        MOVAB   FOOOUT, R7
      56 00000000G  EF  9E 00010        MOVAB   HCT+32, R6
      55 00000000G  EF  9E 00017        MOVAB   PHAN+40, R5
         00000000G  EF  D5 0001E        TSTL    FNCT+4                                 ; 0262
                    4C  13 00024        BEQL    6$
      50 00000000G  EF  D0 00026        MOVL    FNCT+12, R0                            ; 0273
```

```
                52        DC  B5        66  C1 0002D              ADDL3   HCT+32, @PHAN+4, R2          ; 0274
                          10      E8    B6  E9 00032              BLBC    @HCT+8, 3$                  ; 0275
                          05      F8    B6  E9 00036              BLBC    @HCT+24, 1$                 ; 0277
                                 51        01  D0 0003A           MOVL    #1, R1
                                 02        11 0003D               BRB     2$
                                 51        D4 0003F 1$:           CLRL    R1
                          51        03    C0 00041 2$:            ADDL2   #3, R1
                                 02        11 00044               BRB     4$
                                 51        D4 00046 3$:           CLRL    R1                          ; 0275
                          52        51    C2 00048 4$:            SUBL2   R1, R2
                          52 00000000GEF40  D1 0004B              CMPL    FNESIZ[R0], R2              ; 0274
                                 13        15 00053               BLEQ    5$
                     00000000G    8F  DD 00055                    PUSHL   #RNFFWF                     ; 0293
          00000000G EF    00000000G  01  FB 0005B                CALLS   #1, ERML
                                      01  DD 00062                PUSHL   #1                          ; 0294
                     67                01  FB 00064               CALLS   #1, FOOOUT
                                      04 00067                    RET
          00000000G EF                00  FB 00068 5$:            CALLS   #0, TPFFIT                  ; 0308
                     53                50  D0 0006F               MOVL    R0, HOW_MANY_FIT
                                 38    13 00072 6$:               BEQL    7$                          ; 0310
                     54        00  B5  D0 00074                    MOVL    @PHAN+40, HOLD_PAGING       ; 0319
                               00  B5  D4 00078                    CLRL    @PHAN+40                    ; 0320
                               68        D0 0007B                  MOVL    TSF, R0                     ; 0324
          52        7C  A0    01  00  EF 0007E                    EXTZV   #0, #1, 124(R0), HOLD_BARS
                          7C  A0  01  8A 00084                     BICB2   #1, 124(R0)
                                 53  DD 00088                      PUSHL   HOW_MANY_FIT
                     00000000G EF    01  FB 0008A                  CALLS   #1, TPFSRP
                                 50  DD 00091                      PUSHL   R0
                     00000000G EF    01  FB 00093                  CALLS   #1, USKIPL
                                 50  68  D0 0009A                  MOVL    TSF, R0
          7C  A0        01    00  52  F0 0009D                    INSV    HOLD_BARS, #0, #1, 124(R0)
                                 53  DD 000A3                      PUSHL   HOW_MANY_FIT
                     67                01  FB 000A5               CALLS   #1, FOOOUT                   ; 0325
                               00  B5  54  D0 000A8               MOVL    HOLD_PAGING, @PHAN+40        ; 0326
                                      04 000AC 7$:                RET                                 ; 0331
```

; Routine Size: 173 bytes,   Routine Base: $CODE$ + 0000

```
;  205          0332 1
;  206          0333 1 END                                    ! End of module
;  207          0334 0 ELUDOM
```

;
;
;
;   PSECT SUMMARY
;
;   Name   Bytes   Attributes
;
; $CODE$ 173 NOVEC,NOWRT, RD , EXE,NOSHR, LCL, REL, CON,NOPIC,ALIGN(2)

; Library Statistics

```
                                -------- Symbols --------    Pages      Processing
        File                    Total    Loaded   Percent    Mapped     Time

; _$255$DUA28:[SYSLIB]XPORT.L32;1      590        0         0     252      00:00.1
; _$255$DUA28:[RUNOFF.SRC]DSRLIB.L32;1  1248       20         1      86      00:00.3
```

;   COMMAND QUALIFIERS

;   BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/LIS=LIS$:FOOBOT/OBJ=OBJ$:FOOBOT MSRC$:FOOBOT/UPDATE=(ENH$:FOOBOT)

```
; Size:          173 code + 0 data bytes
; Run Time:         00:04.5
; Elapsed Time:     00:14.5
; Lines/CPU Min:     4453
; Lexemes/CPU-Min: 13266
; Memory Used:  51 pages
; Compilation Complete
```

FIND
LIS

ENDWRD
LIS

ERROR
LIS

FIGURE
LIS

FLGSEM
LIS

FOOFIL
LIS

GCODE
LIS

FCIMRA
LIS

FNONLY
LIS

FJNFNJ
LIS

FOOBOT
LIS

GBLDCL
LIS

FNDFLG
LIS

FOOOUT
LIS

FORMAT
LIS